APPARATUS, SYSTEM, AND METHOD FOR IDENTIFYING NETWORK MIS-CABLING
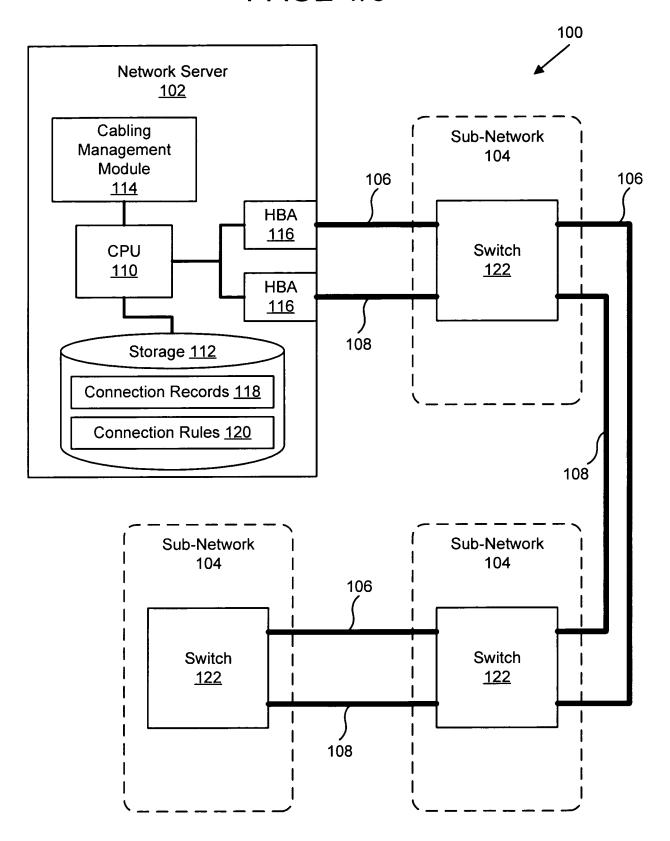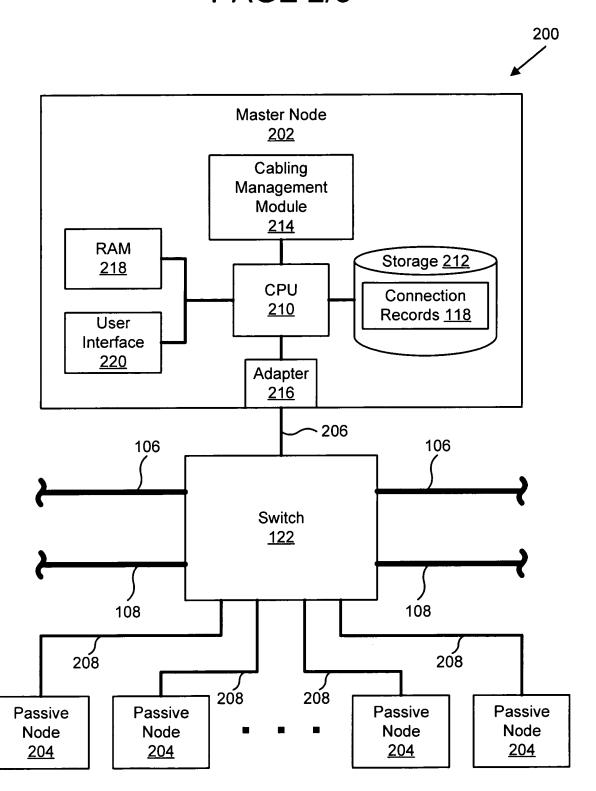Matthew D. Bomhoff, et al.
IBM Docket No.: TUC9-2003-0179 (JMB)
Kunzler & Associates Docket No.: 1500.2.35

PAGE 1/8

FIG. 1

APPARATUS, SYSTEM, AND METHOD FOR IDENTIFYING NETWORK MIS-CABLING
Matthew D. Bomhoff, et al.
IBM Docket No.: TUC9-2003-0179 (JMB)
Kunzler & Associates Docket No.: 1500.2.35

PAGE 2/8

200

Master Node
202

Cabling Management Module
214

RAM
218

CPU
210

User Interface
220

Storage 212

Connection Records 118

Adapter
216

206

106   106

108   108

208   208

Switch
122

208   208

Passive Node 204

Passive Node 204

• • •

Passive Node 204

Passive Node 204

FIG. 2

APPARATUS, SYSTEM, AND METHOD FOR IDENTIFYING NETWORK MIS-CABLING
Matthew D. Bomhoff, et al.
IBM Docket No.: TUC9-2003-0179 (JMB)
Kunzler & Associates Docket No.: 1500.2.35

PAGE 3/8

Cabling Management Module
300

Comparison
Module
302

Verification
Module
304

Insertion
Module
306

FIG. 3

APPARATUS, SYSTEM, AND METHOD FOR IDENTIFYING NETWORK MIS-CABLING
Matthew D. Bomhoff, et al.
IBM Docket No.: TUC9-2003-0179 (JMB)
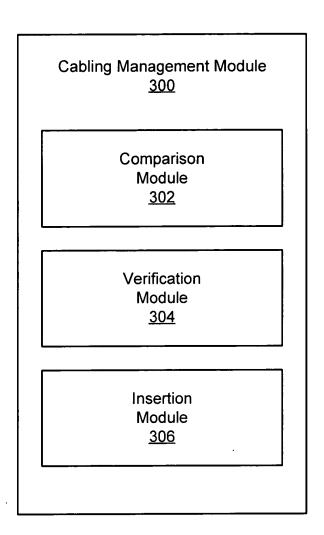**Kunzler & Associates Docket No.: 1500.2.35**

PAGE 4/8

Switch
400

Cabling Connection Apparatus 404

| Detection Module 414 | Isolation Module 416 | Report Module 418 | Record Module 420 |

RAM 406

CPU 402

PHY 408

PHY 410

PHY 408

PHY 410

422

PHY 412

PHY 412

• • •

PHY 412

PHY 412

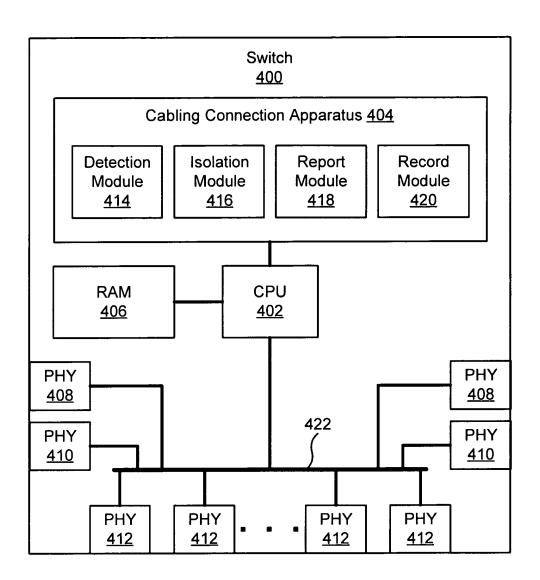# FIG. 4

APPARATUS, SYSTEM, AND METHOD FOR IDENTIFYING NETWORK MIS-CABLING
Matthew D. Bomhoff, et al.
IBM Docket No.: TUC9-2003-0179 (JMB)
Kunzler & Associates Docket No.: 1500.2.35

PAGE 5/8

500

Local Switch Identifier 502	Local Port Identifier 504	Other Data 506	Connection Metadata 508

FIG. 5

600

Primary Switch ID 602	Primary Port ID 604	Secondary Switch ID 606	Secondary Port ID 608	Connection Metadata 610

FIG. 6

APPARATUS, SYSTEM, AND METHOD FOR IDENTIFYING NETWORK MIS-CABLING
Matthew D. Bomhoff, et al.
IBM Docket No.: TUC9-2003-0179 (JMB)
Kunzler & Associates Docket No.: 1500.2.35

PAGE 6/8

700

START ~702

Monitor Sub-Network
for New Connection ~704

706
New
Connection?

NO

YES

Create Connection
Request Record ~708

Send Connection
Request Record
to Master Node ~710

712
Authorized
Connection?

NO → Maintain Port Isolated
(Default) ~714

YES

Insert Port into
Sub-Network ~716

END ~718

FIG. 7

APPARATUS, SYSTEM, AND METHOD FOR IDENTIFYING NETWORK MIS-CABLING
Matthew D. Bomhoff, et al.
IBM Docket No.: TUC9-2003-0179 (JMB)
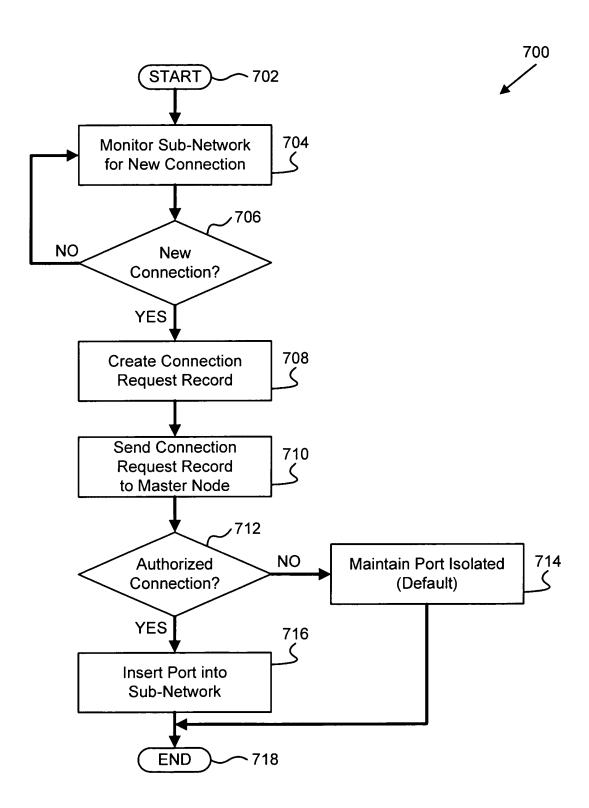Kunzler & Associates Docket No.: 1500.2.35

PAGE 7/8

START 802

800

Store Local Switch ID
in Connection
Request Record 804

Identify Local Port 806

Store Local Port ID
in Connection
Request Record 808

Request Remote
Switch ID and Port ID 810

Receive Remote
Switch ID and Port ID 812

Store Remote Switch ID
and Port ID in Connection
Request Record 814

Store Connection
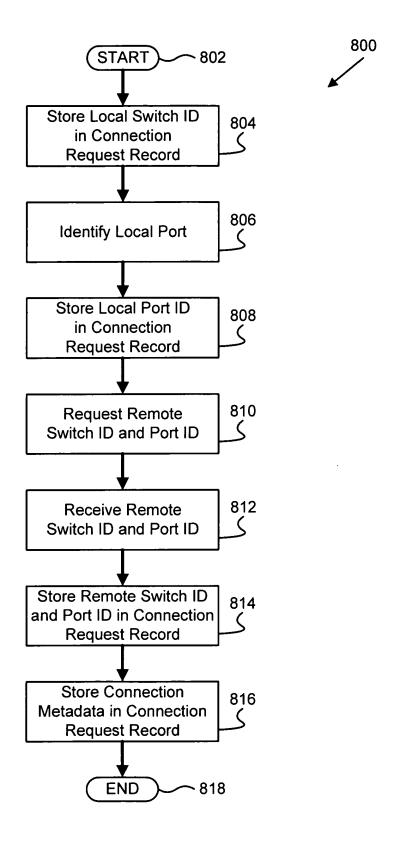Metadata in Connection
Request Record 816

END 818

FIG. 8

APPARATUS, SYSTEM, AND METHOD FOR IDENTIFYING NETWORK MIS-CABLING
Matthew D. Bomhoff, et al.
IBM Docket No.: TUC9-2003-0179 (JMB)
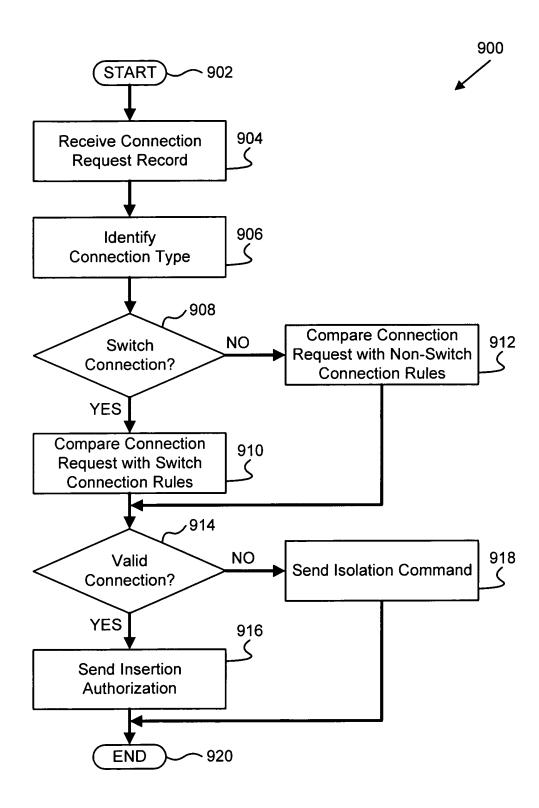Kunzler & Associates Docket No.: 1500.2.35

PAGE 8/8

900

START — 902

Receive Connection
Request Record — 904

Identify
Connection Type — 906

908
Switch
Connection? —NO→ Compare Connection
Request with Non-Switch
Connection Rules — 912

YES

Compare Connection
Request with Switch
Connection Rules — 910

914
Valid
Connection? —NO→ Send Isolation Command — 918

YES

Send Insertion
Authorization — 916

END — 920

FIG. 9